

STRATEGIC COMMUNICATION SCIENCE AND TECHNOLOGY PLAN

CURRENT ACTIVITIES, CAPABILITY GAPS
AND AREAS FOR FURTHER INVESTMENT

April 2009



DIRECTOR DEFENSE RESEARCH AND ENGINEERING
RAPID REACTION TECHNOLOGY OFFICE
Prepared for Members and Committees of Congress

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE APR 2009		2. REPORT TYPE		3. DATES COVERED 00-00-2009 to 00-00-2009	
4. TITLE AND SUBTITLE Strategic Communication Science and Technology Plan: Current Activities, Capability Gaps and Areas for Further Investment				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Department of Defense, Defense Research and Engineering, Rapid Reaction Technology Office, Washington, DC, 20301				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 44	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

CONTENTS

INTRODUCTION	2
Role of Strategic Communication in Military Campaigns and Planning	4
Science and Technology for Strategic Communication	6
CURRENT SCIENCE AND TECHNOLOGY EFFORTS IN SUPPORT OF STRATEGIC COMMUNICATION	9
Highlighted Examples	10
GAP ANALYSIS	15
Themes and Details	16
1. Engaging America's leadership	16
2. Empowering the interagency process	17
3. Equipping for an information-based future	18
4. Facilitating audience activities	19
AREAS FOR FURTHER CONSIDERATION	20
SUMMARY	22
APPENDIX A: CURRENT ACTIVITIES	23
APPENDIX B: IDENTIFIED GAPS AND PROPOSED FUTURE STRATEGIC COMMUNICATION S&T ACTIVITIES	33
APPENDIX C: PROPOSED JOINT STRATEGIC COMMUNICATION ASSESSMENT AND QUANTITATIVE MEASURES JOINT TEST AND EVALUATION	41

“We must harness American power to reinvigorate American diplomacy. Tough-minded diplomacy, backed by the whole range of instruments of American power—political, economic and military.”

*US President Barack Obama
“Renewing American Leadership,” Foreign Affairs, July-August 2007*

INTRODUCTION

Warfare is changing. While that statement has been true throughout the course of military history, a compelling argument can be made today that the public perceptions and implications of military operations might increasingly outweigh the tangible benefits actually achieved from real combat on the battlefield. Additionally, the increasingly ubiquitous spread of wireless, cellular, and other networked telecommunications technologies is not only enabling the emergence of new conventional and non-kinetic capabilities, but is also conveying previously unseen advantages to our adversaries, particularly non-state actors. This view is supported by an increasing chorus of senior government leaders, who like Army Gen. Pete Chiarelli, have concluded that “the commander who prevails in the information war is almost certain to win the war itself.”¹ The entire landscape of what connotes victory or defeat is increasingly managed, manipulated and controlled to influence public audiences and sway popular world opinion.

Closely coupled to this change in warfare is the speed at which both information and disinformation can be marshaled in support of this “battle” to influence audiences that are constituted less by geography and more by shared identities and sympathies fostered by a global and dynamic information environment. Modern communication technologies, from SMS to electronic social media to satellite television, have virtually eliminated time and space. This is not about “new media” or “traditional media” but “now media” that is the first to present and interpret events to an audience.

It used to be said that news organizations write the “first draft of history,” but as events are increasingly reported in real time, often without vetting, proper sourcing, editing, or context and replicated into the global “now media” information environment, those who are first out with the news – particularly citizen journalists – intentionally or inadvertently create the “facts.” Those on the other side of the “facts” are immediately on the defensive as first impressions matter more than ever. The wealth of information in the 24/7 global news cycle is matched only by the lack of attention to deliberating and digesting it. The truth may be the greatest ally in any struggle to change minds and affect the will to act, but the truth is useless if it is not known or trusted.²

¹ “Learning from Modern Wars: The Imperatives of Preparing for a Dangerous Future,” Military Review, September-October 2007.

² Armstrong, Matt, “Understanding Public Diplomacy” MountainRunner.us blog, http://mountainrunner.us/public_diplomacy.html, date accessed: February 26, 2008.

The February 2009 annual threat assessment issued by the Director of National Intelligence expects adversaries, both state-and non-state, will increasingly attempt to “employ mass media in an attempt to constrain US courses of action in a future crisis or conflict.”³ The threat assessment concludes that global connectivity is making it much easier for radical elements to recruit and train new members, proliferate their ideologies, elicit sympathy in contested populations, ideologically “franchise” their attacks (physically and virtually), and manipulate public opinion.

The challenge going forward is to develop the tools, tactics, training, and procedures to improve agility, coherence, and effectiveness of US government engagement in the global struggle for minds and wills to act. This requires creating and enhancing US government capabilities to better understand the shared and discrete values and concerns of diverse global populations in support of new and enhanced channels of engagement.

Strategic Communication (SC) and Public Diplomacy (PD) are now receiving increasing attention and support across the US government. Programs to understand, inform, engage and influence the attitudes and behavior of foreign opinion leaders and publics generally reside within the State Department and, until 1999, the United States Information Agency. But these efforts are enhanced by complementary programs, skills, capabilities, and resources residing in the Office of the Secretary of Defense, the Combatant Commands, US Agency for International Development, US Army Corps of Engineers, and numerous industry and non-governmental organizations (NGOs). A broad set of information-based initiatives, projects and activities are underway that while separately managed and executed, can collectively comprise a nascent Strategic Communication portfolio for the US government. These efforts are being carried out today at the strategic, operational and tactical levels and in all corners of the globe.

Recognizing this broad diversity of current efforts across the US government and the importance of assessing these SC activities in a more holistic fashion, Congress has tasked the Department of Defense to consider the role of science and technology (S&T) in supporting SC. The Fiscal Year 2009 National Defense Authorization Act (NDAA) specifically calls for the creation of a new science and technology thrust area for strategic communication. “The committee believes the Department should leverage these efforts to designate an S&T thrust area for strategic communication and focus on critical S&T opportunities...,” said the House Armed Services Committee.⁴

This plan meets the congressional NDAA direction and describes current efforts within the Department of Defense, the military services, the combatant commands and other agencies on SC. In total, these efforts could be linked together to form the foundation of an S&T thrust for strategic communication. The report also includes a macro-analysis of capability gaps that are not being addressed by ongoing initiatives and lays out potential areas for future S&T investment.

³ Annual Threat Assessment of the Intelligence Community for the Senate Select Committee on Intelligence, February 2009.

⁴ Report of the House Armed Services Committee on the National Defense Authorization Act for Fiscal Year 2009

ROLE OF STRATEGIC COMMUNICATION IN MILITARY CAMPAIGNS AND PLANNING

Recent operations provide numerous real world examples of the increasing power to be derived from the adroit shaping of military operations to influence world opinions and perceptions. While much of the world is rushing headlong into an emerging networked communications age, accompanied by rapid socio-technological changes, the US government is still largely organized along pre-networked industrial lines. There remain significant mismatches between authorities, responsibilities and resources among US government entities charged with carrying out SC policies and activities. These lessons are not being ignored, however, and have captured the attention of senior Defense Department officials, including Secretary Robert Gates. “We often speak disparagingly about our adversaries, but the reality is when it comes to strategic communications, they are very 21st century. They are far more agile than we are.” In order to be effective, the American message-making machinery must be able to successfully compete and operate within a vibrant and ever changing marketplace of ideas.

- US and NATO forces in Afghanistan are continually engaged in an information battle with the Taliban over the number of actual civilian casualties that result from Allied aircraft and unmanned air vehicle strikes on insurgent strongholds and bases. The Taliban issues grossly inflated tallies, often with accompanying video to sympathetic web sites, often mere minutes after a strike has occurred. The Taliban’s tactics are aimed at undermining Afghan public support for both their own government and the actions of US and Allied forces. When NATO forces issue the results of their investigation, often weeks later, the information is either ignored, or no longer relevant, since the Taliban has already scored its important communications point and has moved on to their next SC battle, along with the public chroniclers of the initial strike, such as the world’s media organizations.
- Israel confronted this increasingly stark axiom of modern war during its 2006 campaign against the Hezbollah terrorist organization in Southern Lebanon. By operating its own radio and TV network, in addition to controlling a sophisticated online presence, Hezbollah was able to manipulate public perception to actually project itself as winning the battle while helping to orchestrate a backlash in global public opinion against Israel’s military actions. The Israel Defense Forces faced similar information/perception issues during its recently concluded campaign against the radical Palestinian group Hamas in Gaza.
- Support for Columbia’s terrorist FARC group was seriously undermined last year when student activists using the social networking site Facebook were able to stage a worldwide protest against the FARC’s activities. More than 12 million people in 190 cities across the globe turned out in a single day to participate in the demonstration called One Million Voices Against FARC. It should be noted that

it took only two months from inception to implementation for this event to take place, which did more to delegitimize FARC than any other action to date.⁵

There are hundreds of other vignettes like these that amply demonstrate that the conduct of Strategic Communication is rising in importance, especially in the types of “wars amongst the people”⁶ to borrow British Gen. Rupert Smith’s phrase, that the United States military finds itself engaged in for the foreseeable future.

There is broad recognition that the US government must re-invest in and rebuild its arsenal of persuasion, which was largely dismantled after the Cold War. SC activities are now receiving renewed focus and attention in Department-wide strategies and other high-level planning documents. For example, Secretary Gates’ 2008 National Defense Strategy concluded that strategic communications is a capability the department requires in order to meet 21st century challenges.

“Although the United States invented modern public relations, we are unable to communicate to the world effectively who we are and what we stand for as a society and culture...this capability is and will be crucial not only for the Long War, but also for the consistency of our message...”⁷

The Department’s January 2009 Quadrennial Roles and Missions Report likewise highlights the growing importance of SC and labels it an area ripe for future collaboration across US government departments and agencies. The report notes the Department’s burgeoning resources and capabilities being devoted to this mission, especially those efforts related to countering ideological support to terrorism in Iraq and Afghanistan. Working in conjunction with State Department, DoD is committed to using its operational communication activities to support State’s broader public diplomacy efforts. However, the QRM also warns that:

“Funding and authorities dedicated solely to individual agencies may not be sufficient to ensure that the activities of multiple agencies are fully integrated and that all seam issues between organizations are addressed. Stove piped funding and authorities could have the unintended effect of encouraging the development of uncoordinated approaches to national security challenges...”⁸

In addition, outside advisory and expert groups ranging from the Defense Science Board (DSB) to the National Science and Technology Council (NSTC), have issued a series of reports in recent years with recommendations urging increased attention, focus and investment be committed to SC. In several reports, the DSB has called for the creation of a new Global Engagement Center to better manage and prioritize the disparate range of SC activities being conducted across the US government. In its report on "Research and

⁵ Corman, Steven R. “Can Facebook Defeat Terrorism?” COMOPS Journal of the Consortium for Strategic Communication, <http://comops.org/journal/2008/11/17/can-facebook-defeat-terrorism/>, Nov. 17, 2008.

⁶ The Utility of Force: The Art of War in the Modern World, General Sir Rupert Smith, 2005.

⁷ National Defense Strategy, US Department of Defense, June 2008.

⁸ Quadrennial Roles and Missions Review Report, US Department of Defense, January 2009.

Development Challenges for Regional Stability and Capacity Building,” the NSTC challenged the R&D community to conduct more basic and applied research/science enabling the development of more effective military and civilian communications, including methods in developing humanitarian programming, and initial media management; strategies for crafting targeted messages, for dealing with “hate” media sources; and tools and techniques for monitoring public/community reaction.⁹

In its most recent January 2008 report, the DSB Task Force on Strategic Communication recommended that the DoD should make greater use of existing tools and technologies to support strategic communication – tools such as network analysis, machine translation, sentiment analysis, and innovative evaluation and measurement technologies. “While there is much that can be done with existing tools, strategic communication is a field that could greatly benefit from an expanded research program. Because of the revolutionary changes in the communications landscape in recent years, the field is fertile with new opportunities for the derivation and application of analytical techniques,” the DSB said in its recommendations on critical S&T opportunities.¹⁰ The DSB also stressed the need for people and organizations involved in SC to share both data and results across the entire community.

Existing S&T capacity can be used to:

- Identify nodes of influence through network analysis
- Support communication and media analysis with machine translation
- Understand viral information flows and influences
- Utilize innovative evaluation/measurement methodologies (such as sentiment detection/analysis) to understand and assess the impact of actions or messages

The DSB task force recommended that \$50 million a year be invested to advance knowledge in those areas.¹¹

SCIENCE AND TECHNOLOGY FOR STRATEGIC COMMUNICATION

The science and technologies that support or enhance Strategic Communication activities are much broader than traditional S&T efforts associated with the development of weapons systems or conventional warfare capabilities. S&T for SC focuses more on the underlying capabilities required to Inform, Influence and Persuade populations and the tools and infrastructure that enable those capabilities, such as telecommunications and wireless infrastructure; social science research; cultural understanding and language translation; polling and effects measurement techniques; capacity building in other

⁹ “Research & Development Challenges for Regional Stability and Capacity Building.” Report of the NSTC Committee on Homeland and National Security, February 2008, p.17.

¹⁰ Defense Science Board Task Force on Strategic Communication report, January 2008, p.97.

¹¹ Defense Science Board Task Force on Strategic Communication report, January 2008, pp. 97-98

nations; and the massive training and education programs needed to shape the development of modern information-age strategic communicators and public diplomats.

Investments in these capabilities reflect the emerging understanding that to defeat ideologically motivated extremists requires a great deal of “smart power” and less of the traditional notions of “hard power.” S&T also has a role to play in the conduct of the nation’s diplomacy; scientific exchanges are one of the catalysts of global innovation and advancement. Secretary of State Hillary Clinton emphasized her commitment to using science as a tool in public diplomacy during a February 2009 Town Hall meeting with State Department staff. “I want to see...our Department and USAID be in the forefront of enlisting scientists for all kinds of the problems that we face, working to encourage more scientific exchanges...”

Given the range of devices that constitute an interconnected Web 2.0 world, with much of the world’s populations routinely using cell phones, handheld computers, and other emerging mobile communications to construct their personal information spheres, so too must our definition of S&T be equally flexible in order to accommodate the broadest possible range of research vectors. To do otherwise limits research options and increases the risk of being surprised by adaptive enemies using emerging technologies in creative or unexpected ways. Technology is only a supporting element to SC, however. While important to its overall success, it is not the dominant aspect in crafting a successful SC approach. But America’s technological expertise and innovation can and should be harnessed to provide a significant qualitative advantage over terrorist networks and other extremist groups. Technology is an enabler for SC, not an end in itself, and enabling SC requires looking across organizational, conceptual, as well as technological opportunities to produce the most effective outcomes.

S&T plays a role in supporting all elements of the SC Process as the Figure 1 below illustrates.

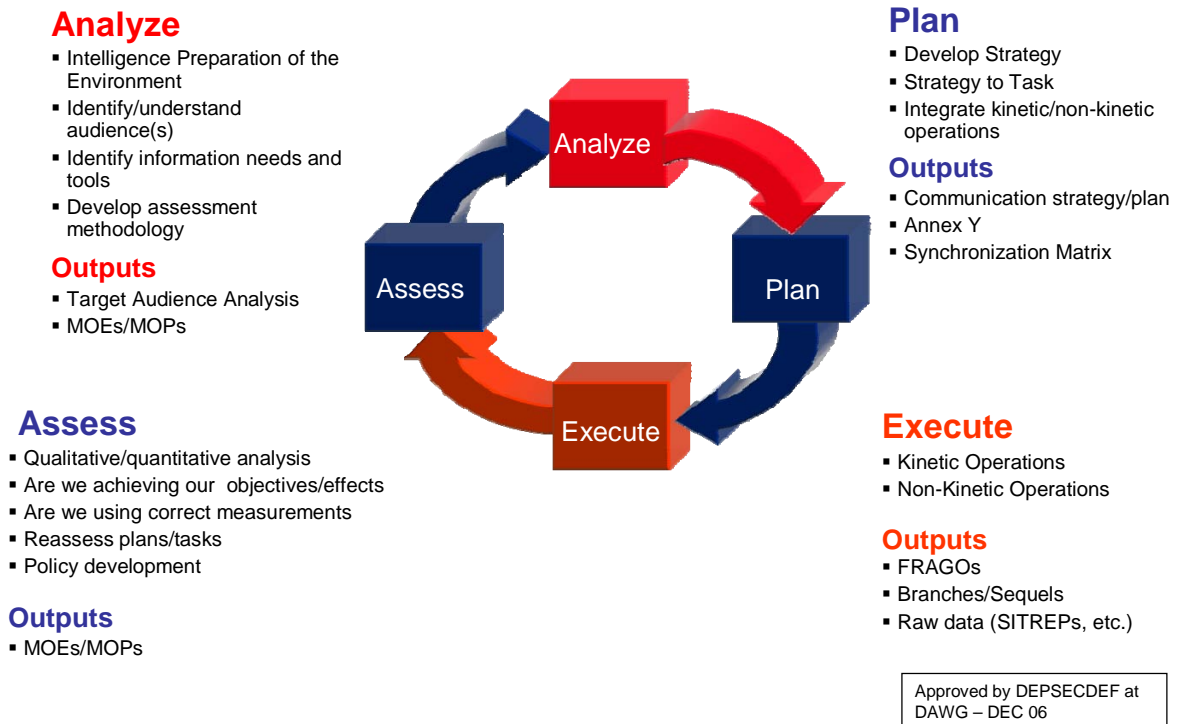


Figure 1: The Strategic Communication Process

CURRENT SCIENCE AND TECHNOLOGY EFFORTS IN SUPPORT OF STRATEGIC COMMUNICATION

Current S&T activities to enable, enhance, and measure US Strategic Communication are conducted across a variety of agencies, offices and organizations throughout the government. The majority of S&T efforts are conducted within the Office of the Secretary of Defense (OSD), the Combatant Commands, the Undersecretary of Defense for Intelligence, the Joint Staff, and the State Department. Within OSD, the Undersecretary for Acquisition, Technology & Logistics (AT&L), through its Director, Defense Research and Engineering (DDR&E) has conducted a number of projects to develop tools, models and assessments in the domains of social network analysis, media monitoring, system dynamics models, and collaborative environments to support the policy, strategy, and operational SC community within DoD and the interagency.

The Rapid Reaction Technology Office (RRTO) in DDR&E and the Irregular Warfare Support Office (IWS) under the Assistant Secretary of Defense Special Operations/Low-Intensity Conflict & Interdependent Capabilities (SO/LIC-IC) have invested in research and development of SC capabilities from a “whole of government” perspective. Both offices have formed strong partnerships with OUSD/Policy’s Support to Public Diplomacy office, which acts as a connection between DoD and the State Department’s Under Secretary for Public Diplomacy, the National Counter-Terrorism Center (NCTC), USD(I), USAID, the Departments of Homeland Security and Justice, and NGOs such as the US Institute for Peace.

Domains of Strategic Engagement/Influence



While organizational strides have been made to better communicate and coordinate efforts among the interagency SC community, the projects are largely disconnected and not aligned across the continuum of SC domains, including public diplomacy, public affairs, information operations, psychological operations, and capacity building. The Department has organized an Information Coordination Committee, including representatives from within DoD and the State Department, and has created a Building Partnership Capacity portfolio at the Deputy Secretary’s level to improve visibility of SC activities. The State Department hosts an SC Network, which provides a weekly venue

for topics and activities performed within the interagency community and promotes information sharing, and operates a Global Strategic Engagement Center (GSEC) focused on the State Department's public diplomacy efforts. As the analysis of capability gaps later in this plan will describe, these efforts are a start at creating better coordination and a common operational picture of the US government's SC approach, but a strategic-operational center for the government is still needed to address those capabilities.

In order to see both the diversity and the collaborative and cross-cutting nature of these initiatives, and how they can collectively form an S&T thrust area for SC, it is helpful to sort them into the following categories:

- **Infrastructure:** Enabling and facilitating access to information from news to markets to vocational
- **Social Media:** Knowledge Management, Social Media, and Virtual Worlds
- **Discourse:** Analysis of radical and counter-radical messages and ideas
- **Modeling and Forecasting:** Gaming and anticipating adversarial messages and ideas as well as our counters and pre-emptive measures
- **Collaboration:** Increasing collaboration and training across and beyond Government
- **First Three Feet**¹²: Empowering, Equipping, Educating, and Encouraging media and others to exist and freely report on events for what they really are
- **Understanding:** Develop country, culture, and regional expertise, including polling
- **Psychological Defense:** Planning and capacity building for dealing with critical strains on society in peacetime and wartime

A full listing of the current, ongoing, and planned S&T activities for SC are included in Appendix A.

Highlighted Examples

VOICE Programs

Over the last several years, there has been a growing effort to establish named operations across the combatant commands in order to boost the effectiveness of information operations. Beginning with US European Command, these efforts, now called "Voice Operations," are in the process of being stood up at US Africa Command and US Pacific

¹² Whereas the "last three feet" describes the final point of contact with audiences, the "first three feet" describes the formal or citizen media's ability to write what has been called the "first draft of history." It is the first contact with an event that shapes the perceptions of the event. By training media and the people who will be reporting the event in newspapers, television, radio, and blogs, appropriate context can be achieved at the outset.

Command. EUCOM's model, called Operation Assured Voice was widely considered a success in its establishment of specific web sites focused on the Maghreb states and publishing a newspaper in the Balkans. These efforts are now funded in the command's future years defense plans and thus create in these organizations a culture and a sense of community and continuity that transcends the rotation of individual commanders or specialized personnel.

The Joint Intelligence Preparation of the Operational Environment (JIPOE)

JIPOE leverages the Gallup World Poll to identify the emergence of groups willing to use weapons of mass destruction (WMD) and locate the seeds of hostility as they arise and to do that on a worldwide basis thereby affording the US the opportunity to stop potential problems before they escalate. The Gallup World Poll presents a unique opportunity to mine consistent data gathered globally on a regular basis. As survey (opinion) data, it is complementary to the factual data already being used by Joint Forces Command (JFCOM) in producing an initial estimate of hot spots and provides insights into popular reactions to local and national environmental factors.

Alternative Strategies

The Alternative Strategy Initiative developed over the last three years into a school of thought (model) that can be used by the US government and US businesses engaged in what we regard as a key non-multiplier in the war against terror and extremism: social development of civil societies. Current successes build on previous alternative strategy sessions to include:

- Networking of women activists in Iraq and Afghanistan where women were used as agents of conflict resolution and reconciliation
- Youth forum focusing on conflict resolution and de-radicalization

The following projects were sponsored in 2008:

- Creative Media for Fostering Tolerance in the Philippines helped to empower South East Asian moderates to use conventional and unconventional media platforms to espouse a more moderate ideology.
- Civil Counter Insurgency (COIN) Under Fire Study details methods to maximize the impact of civilian contributions to COIN in violent areas and minimize security costs.

Measuring Progress in Conflict Environments (MPICE, pronounced “M-Peace”)

The MPICE system was developed to provide a basic metrics analysis capability suitable for broad interagency use applicable to any stabilization and reconstruction environment of interest. The system was developed in part through case study application in Afghanistan and Sudan, and is being employed in support of the U.S. State Department Haiti Stabilization Initiative (HSI), focusing on the troubled Northwest quarter (Cite Soleil) of Port-au-Prince. The system can be used both as an organizing guide for policy makers and planners, as well as a comprehensive means to analyze progress across sectors over time. The tool allows users to develop a visual story with flexibility to adapt to their particular needs.

ECHOES Media Project

ECHOES, a project of OSD/Policy's Support to Public Diplomacy office, is developing a repository of constructive media for foreign Muslim populations which undermine support for violent extremism and foster positive alternatives. The project encourages academic research on effective use of media for countering violent extremism and helps people understand the complexity of the challenges facing Muslim populations and identify Muslim voices against violent extremism. The media in the repository are fiction and non-fiction, including religious materials. The materials include short stories, articles, books, coloring books, plays, radio dramas, films, computer games, and textbooks. Through a partnership with the University of Maryland's START program, the repository will be made available to National Foreign Language Center networks and other organizations worldwide. In addition, 8 books and 4 films will be translated from Arabic to English and teaching guides developed for US Military Educational Institutions, to be integrated into curricula on Countering Ideological Support for Terrorism.

Countering Corruption in Host Nation Police Forces

In 2005, DoD Directive 3000.05 "Military Support for Stability, Security, Transition and Reconstruction (SSTR) Operations" defined stability operations as a "core U.S. military mission" and stated that it shall be given a "priority comparable to combat operations." An essential part of SSTR is establishing a fully functional host nation police force. In June 2008, RRTO launched a project to define the challenges related to countering corruption in a host nation police force and identify technologies that could help address them. In particular, this study focused on the Afghanistan National Police Force (ANP) but the solutions identified are more broadly applicable.

The team focused on "Instilling and Supporting a Professional Police Culture," which consisted of five sub-elements:

- 1) Security of the Police Officer
- 2) Training and Mentorship
- 3) Living Wage
- 4) Recruiting and Screening
- 5) Internal Affairs

Through a patent database search methodology to identify new products and capabilities in their most embryonic stages, the team found many elements to a possible security solution. These included providing the proper weapons, protective equipment, uniforms, transportation and the communications technology for officers to execute their mission. The team recommended RRTO consider technologies that:

- Turn a collection of cell phones into an ad hoc mesh network capable of sustaining communications and data transfer with or without cell towers

- Transform the cell phone into a mobile platform for sensors creating a surveillance network
- Enable the cell phone to read fixed remote sensors to detect changes in the environment that could impact security
- Maps the locations of neighboring cell phones creating a geo-tagged surveillance network and provide equivalent of blue force tracking.

The project identified a collection of technologies in the other elements to consider, making use of Afghanistan's only ubiquitous technology platform, the cell phone, but that they believe can help address the Professional Police Culture challenge. While most of the capabilities identified are immature, the effort did highlight the diversity of potential technological solutions that are available.

VOICEBOX

The VOICEBOX team, through a series of interviews with interagency stakeholders, conducted an operational analysis and capability design of a future state SC enterprise for the US government. They produced a Concept of Operation for how USG SC capabilities could be implemented into an overarching SC enterprise system that addresses current gaps. They identified SC capability gaps across the interagency and produced recommendations for solutions to those gaps. For example, the report suggests the government coordinate the collection, analysis, and dissemination of target audience analysis and related intelligence, in cooperation with the Intelligence Community. The final report for this project detailed a series of recommendations to catalyze the USG SC community into organizing for the future.

In June 2008, DDR&E sponsored a workshop at the National Defense University to identify and prioritize investments in Science and Technology to enhance Strategic Communication. The workshop involving 80 individuals from the operational and S&T communities produced the following recommendations and findings:

1. There is a lot of existing and emerging "low hanging (technology) fruit" that can support SC, which should be exploited by employing an evolutionary acquisition approach. There is a need for an integrating architecture to facilitate synthesis of diverse Web 2.0 applications and data sources and be fielded within 18 months.
2. There is a need for "technology prospectors" to identify and support the injection of emerging commercial technology. Those prospectors could include DDR&E's Defense Venture Catalyst Initiative (DeVenCi), JFCOM's Office of Research and Technology Application, In-Q-Tel, and OSD/AT&L's Open Business Cell within the Rapid Reaction Technology Office.

3. There are key S&T needs for SC that will not be met with existing and emerging commercial technologies. It is important to invest in key S&T areas to address selected gaps in technology, such as enhancing data integration and knowledge management. Make available credible, well-structured cultural databases that combine the distributed databases developed by elements of the SC community.

The workshop's report noted it is clear there are no "silver bullets." Investments are needed in multiple areas, such as data, social network analysis, translation, decision aids, and modeling and simulation.

The table below represents a recommendation from the workshop to create an integrated capability that can support the SC Community of Interest.

Area	SC Tools	Observations
Assess, Analyze	Yellow Pages	People and offices; a database tool
	Taxonomy	A process/tool and data structure
	Reference Documents	Access to policy, et al; a database/search tool
	Target audience catalogue	An intelligence/diplomacy database tool to determine who the target audience should be
Plan	"Means" catalogue	A database of ways to get our desires known
Execute	Assessment Tool	How are we doing at getting our message out and why?
Assess, Analyze	Refinement Tool	A way to determine how to adjust our message or policy (includes M&S)
Integrate	Coordination Tool	A way to allow communications and coordination

Table: Tools to Support the SC Community of Interest

GAP ANALYSIS

This section identifies critical areas not directly addressed by the projects in this report. As this report is neither a comprehensive catalog nor an in-depth assessment of the programs captured herein, the gaps described below may be partially addressed by current or planned projects. Regardless, these issues do merit attention as elevated priorities, additional investment, or other actions.

In exploring the gap between plans and requirements, four high-level themes emerged:

1. Engaging America's leadership
2. Empowering the interagency process
3. Equipping for an information-based future
4. Facilitating audience activities¹³

These are not categories but overlapping and mutually supporting themes. Their order is intentional as each provides a foundation required for the success of the subsequent theme.

The first major theme, cited in numerous publications and through interviews with members of the SC community, is the need for clear direction and guidance in order to support the objectives of America's senior leadership.¹⁴ Critical to the success of any strategic communication or public diplomacy program is buy-in, support, and participation by senior leadership in the creation of a comprehensive strategy. The US is engaged in a global struggle for minds with the purpose of affecting the will to act by individuals and groups. Monitoring our adversaries' messages and the resonance of our own messages will only result in limited tactical success unless operations and affairs are crafted and implemented with the understanding that our success depends on changing attitudes and behaviors. America's leadership, both military and civilian, Executive and Legislative, should be considered as part of each innovative program.

The interagency process must always be considered. The vertical integration of S&T products must be complemented by horizontal integration. The programs listed herein and others not listed or yet to be developed can and should foster interagency, Whole of Government, and even Whole of Society partnerships. S&T can help break "silos of excellence" by creating common operating pictures, leveraging strengths and characteristics of other agencies and organizations. It is arguable that some of the programs in this inventory fall outside the traditional role of the Defense Department, but

¹³ This thematic framework is adapted from Lieutenant General William B. Caldwell's "Four E's". See Frontier6, "Changing the Organizational Culture (Updated)", <http://smallwarsjournal.com/blog/2008/02/changing-the-organizational-cu-1/>, February 3, 2008.

¹⁴ Defense Science Board Task Force on Strategic Communication report, January 2008; Lord, Kristin M., *Voices of America: U.S. Public Diplomacy for the 21st Century*, Washington, D.C.: Brookings Institute, 2008; Center for Strategic & International Studies, *CSIS Commission on Smart Power: A Smarter, More Secure America*, Washington, D.C., 2007; U.S.-Muslim Engagement Project, *Changing Course: A New Direction for U.S. Relations with the Muslim World*, Report of the Leadership Group on U.S. Muslim Engagement, Washington, D.C., September 2008.

the question remains, “If not DoD then who?” Strengthening the interagency process could answer that question by empowering others who are better suited for particular tasks.

Equipping for the information-based present and future is more than acquiring the right hardware and software. It requires understanding and adapting to a dynamic environment that is both of the moment and persistent. A problem in the information-based present and future remains a continued perception that one-way communication is adequate. While this focus is to be expected from operational plans addressing specific problems and solutions, breaking this thinking is essential as time horizons must shift from mission-based to never-ending struggles. The definition of “victory” must be changed in the struggle for minds and wills.

We must ask whether the S&T approaches captured in this report are about improving communication or to push the envelope of global engagement by the US - creating greater and deeper partnerships from the grassroots to the highest levels of global organizations, from states to non-state actors. Public diplomacy and strategic communication are about establishing, fostering, managing, and furthering these relationships for America’s national security. There are many challenges in adapting to the information-based present and future.

Themes and Details

1. Engaging America’s Leadership

- a. ***No enabler of a clear strategy, mission, and purpose.*** Simple and broad goals are required to establish a direction that includes more than Countering Violent Extremism, which is but one component of SC and sustained global engagement. A national communication strategy is required for successful engagement and the development and deployment of appropriate technologies.
- b. ***Lack of leadership to coordinate and implement the clear strategy, mission, and purpose.***¹⁵ It is understandable that a focus on S&T will focus on programs, but technology is not a panacea. Leadership comes from more than a single principal or team of principals. There must be an ongoing effort to better coordinate DoD and interagency institutionalization of programs, such as social science, to focus technological solutions that improve our understanding of foreign area populations.
- c. ***Responding to the Say-Do Gap.*** Knowledge derived from semantic data mining and other informational queries must be connected to more than short-term messaging but integrated channels and procedures to influence

¹⁵ Defense Science Board Task Force on Strategic Communication report, January 2008; Lord, Kristin M., *Voices of America: U.S. Public Diplomacy for the 21st Century*, Washington, D.C.: Brookings Institute, 2008; Center for Strategic & International Studies, CSIS Commission on Smart Power: A Smarter, More Secure America, Washington, D.C., 2007; U.S.-Muslim Engagement Project, *Changing Course: A New Direction for U.S. Relations with the Muslim World*, Report of the Leadership Group on U.S. Muslim Engagement, Washington, D.C., September 2008.

behavioral changes on our side as well. This includes mapping responses to our own activities and messages and informing senior leadership, so the gathered information can guide future operations.

- d. ***Limited access to products and programs.*** Not explored in the inventory is the availability of knowledge products generated by the programs herein to senior leadership, oversight and funding entities, and other parts of the US government. There is a balance between overclassification and creating awareness and part of public diplomacy and strategic communication is creating awareness of what is happening overseas to create allies and bolster support not just for America but for the programs. A knowledge management system that provides a common operating picture for the interagency SC community will go a long way to opening access to available opportunities and capabilities.

2. Empowering the interagency process

- a. ***Whole of Government approach.*** The Defense Department is not a solo actor in the arena and must incorporate and synchronize with other government agencies. S&T can and must support a comprehensive and inclusive approach.
- b. ***Whole of Society approach.*** For example, pathways to create and enhance and support public-private partnerships, private initiatives guided or assisted by the government, etc. along the lines of Minerva and “educational exchanges” and partnerships between military and civilian universities.
- c. ***Agile systems are prepared for the unexpected.*** Developing products that allow rapid adaptation of US-originated messaging would have immediate impact on short-notice operations such as Humanitarian Assistance/Disaster Relief and other contingencies.
- d. ***Do not over-classify.*** Not specifically addressed by any project, but limiting the interagency process is the over-classification of material to prevent sharing and collaboration.
- e. ***Operational Center.*** There are some groups, like the Broadcasting Board of Governors, who are working to become meeting places and clearing houses for information (in the case of BBG, it is polling data). S&T programs must consider plugging into a larger, interagency-supported system that does not need to be a comprehensive software solution but based on other collaborative technologies and interagency processes. A “strategic-operational center” is a nascent concept that is gaining increasing acceptance among SC practitioners across the US government. Today, no single office across the US government has been provided the resources or authorities to bind together the government’s distributed set of SC/public diplomacy initiatives, activities and efforts such as polling; foreign media analysis; and automatic language translation, storage and retrieval techniques. Some argue that the Office of the Director of

National Intelligence could be a good model to use in thinking about how to structure this center. Others see a strengthened Undersecretary of State for Public Diplomacy and Public Affairs at the State Department as capable of fulfilling the need, transforming this directorate into a semi-autonomous entity within the overall department.

3. Equipping for an information-based future

- a. ***Short time horizon.*** The programs herein are understandably focused on immediate threats. National security is not based on short-term missions but long-term engagement.
- b. ***Narrow focus.*** Threats are broader than Countering Violent Extremism (CVE) and the geography is broader than the Middle East. Better coordination of social science to improve our understanding of foreign area populations as well as relevant diasporas. The modern struggle for minds and wills is decreasingly constrained by geography and increasingly diverse.
- c. ***Data Mining and Semantic Analysis for online Media.*** The Department has conducted preliminary research into the use of semantic analysis programming to detect trends and the frequency of appearance of specific themes in online media. This capability can provide a broad representation of country and region attitudes and trends on issues of DoD and USG interest. Further development of this capability beyond a proof of concept is needed to support current operations in all COCOMs, relieving pressure on limited linguists needed to do time-intensive media analysis.
- d. ***Internal e-learning and concept-based people search.*** Revise doctrine or training and increase training and education to equip and empower our own people. Crash course on the world, not just Arabic and the many dialects is required. Identifying the right people to communicate is just as important as finding the right words to communicate.
- e. ***Long-term interagency SC training & education.*** No integrated curriculum for the development of 21st century USG communication professionals exists. Elements, however, do exist: certain courses at the State Department Foreign Service Institute, professionalization programs for Joint PSYOP officers, and on-demand training from USJFCOM's Joint Public Affairs Support Element. However, there still exists a requirement to integrate the education of information professionals in such a way that disparate disciplines in the profession do not conflict and become mutually supportive of strategy over time (e.g., public affairs versus PSYOP). Furthermore, 21st century communication is defined by its dynamism, by how messages can change and be reinterpreted as new audiences enter the global conversation. Therefore, constant, continuing education should be mandated for SC professionals of the future to prevent them from getting stale or becoming obsolete in an evolutionary information environment.

4. Facilitating audience activities

- a. ***Attention to audience access to information.*** How will audiences receive information and independently vet information? The rule in informational activities, from consumer products to Information Operations, is the more opportunities the audience has to verify a claim the more likely they are to buy or accept the “thing.” More attention must be paid to Information Communications Technology for Development (ICT4D), which is a growing field with plenty of research and eager private and non-governmental activities. For example, the One Laptop Per Child project (the \$100 laptop), “last mile” communications like cell towers, and other prerequisites for facilitating local and extra-regional communication.
- b. ***Amplifying “local” voices.*** It is one thing to get a message to an audience, but we must make it easier for the audience to act with that information. Public diplomacy and Strategic Communication is inherently a proxy war by, with, and through voices geographically or culturally local to the target audience. Attention must be paid to enable action either through S&T solution or otherwise.
- c. ***Missing emphasis on capacity building.*** The European Recovery Plan, better known as the Marshall Plan, was the greatest denial-of-sanctuary program this country ever put forward and it had a mutual relationship with Public Diplomacy. Capacity-building programs that can be facilitated by science and technology include: Transitional Law Enforcement, Technology for Countering Corruption in Host Nation Police (IDA, Innovation Business Partners) – mesh networks that do not require cell towers for communication.
- d. ***Integration of e-operations with “brick and mortar” operations.*** Integration with the interagency process can help develop non-S&T solutions, such as exchanges, libraries, international education programs, etc. that will both use S&T and will denote successful S&T application.

AREAS FOR FURTHER CONSIDERATION

Engagement in this environment is not like a football game. There are no set plays or time-outs. Boundaries, if they even exist, are discovered through trial and error. Most importantly, there is no end zone to reach or needle that moves or computer that clicks to indicate progress. Victory is not a binary decision achieved at the end of a regulation period.

We are in a global “now media” information environment. Understand the difference between public diplomacy and strategic communication. For the former, the audience is outside the geographic territory of the United States. For the latter, the audience is global. Science and Technology solutions do not generally discriminate based on geographic location, nor should they. The domains of strategic communication can not be limited to those with public affairs authority – everyone should be viewed as a strategic communicator.

Be wary of over-emphasizing hard measurements. It is widely recognized across DoD that assessment of SC activities is hindered by the lack of standard processes, procedures and tools. A few efforts have been proposed or undertaken to address methods for SC assessment and utilize those measures to influence subsequent planning and operational decisions. However, there is a difference between quantitative returns and qualitative success. Nielsen-style ratings may be helpful in some situations, but propagation of ideas and affecting the will to act is more important, as are the development of proxy relationships characterized by the mantra “by, with, and through” that is wholly applicable to engagement in the information realm. Edward R. Murrow, the noted public diplomacy chief from the early years of the Cold War noted that there is “no needle that moves or computer that clicks” when a mind is changed.

Applying advertising measurements like reception ignores the basic premises of the struggle for minds and wills that engagement must lead to affecting the will to act. The action could range from the active to the passive, from supporting the policies and activities of the US and her allies to simply not supporting the policies and activities of our adversaries. The medium is not the message; the people are. People broker connections, which can be enabled or in some cases hindered by tools and systems.

Consider using existing innovative public-private funding arrangements to develop new technologies. Requirements for a true integrated, open source Web 2.0 multimedia platform and accompanying social networking site add-on, consisting of expandable files (audio/video/text/twitter (SMS)) tracked by embedded tags (username, time/date, location, IP address) could be solved through existing “venture capital” partnerships with the private sector. Such partnerships would help DoD more broadly disseminate messages and penetrate foreign audiences regardless of the infrastructure available for dissemination and look at ways to link robust digital infrastructure with the cellular/GSM/handheld services available in less developed areas.

S&T is not a magic bullet. Technology is not a panacea; a purpose must be known and technology used to fill gaps as necessary. Stability Operations should emphasize the need to expand the Foreign Area Officer cadre, improve interagency cooperation, and draw-in

of S/CRS as hub organization, as well as a return of the Sea Bees (Navy Construction Battalions) (e.g. is it time to ‘nationalize’ more of the reconstruction and stabilization efforts?). Technology can facilitate through collaboration technologies, training technologies, and communication technologies. It is worth noting that the on-the-ground awareness the Joint Staff and others are seeking is what the now-defunct USIA provided, most notably in the 1950’s and 1960’s, when they were charged with identifying and engaging current and future opinion leaders. USIA naturally had the “feel for the street” and acted as the premier public diplomacy operators.

Research into cultural differences in decision-making and target audience cognition has demonstrated that message development can be attuned for a specific population based upon a data set of unique cultural and social characteristics. Operations conducted in short-notice in countries and regions in which little deliberate planning has been conducted (e.g. Humanitarian Assistance operations) result in the application of ‘generic’ tools and messaging that may fail to achieve a timely desired result. The use of cultural experts and anthropologists can be effective; however compilation of the necessary data takes time and resources not available to a joint commander.

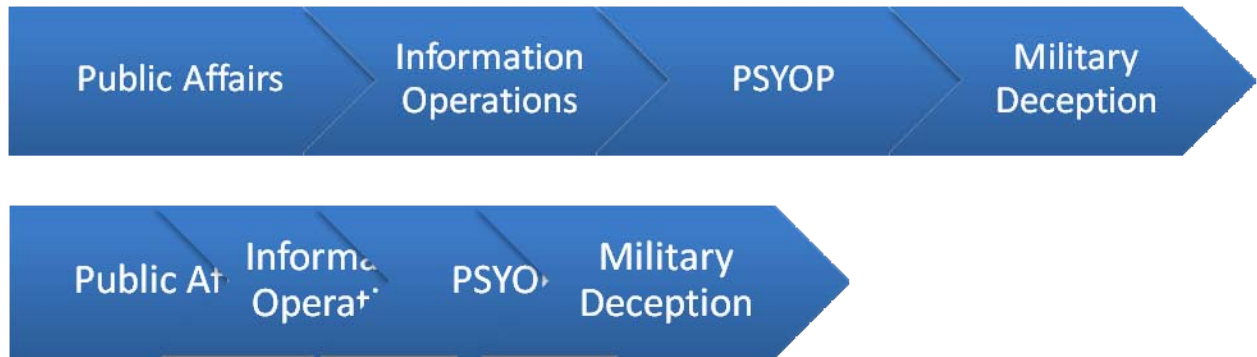
Target audiences may appear suddenly, requiring interagency collaboration on understanding the audience and the best way to engage. Humanitarian Assistance and Disaster Relief, for example, must be supported by more than “generic” tools.

Experimenting with new technologies. Testing and failure should be permitted and encouraged in a development environment. An operational center, a home for the “strategic influence enterprise,” should foster both the experimenting of new technologies and the evaluation of the same in an interagency environment. In fact, tactical to strategic experimentation should be encouraged to determine what works and what doesn’t work in a rapid fashion. A robust evaluation capability should support this experimentation, providing a monitoring and measuring service for the selection of successful experiments into larger programs of record.

Ongoing reviews are necessary. An advisory commission or panel to critically assess programs should be empowered to encourage and evaluate the use of best practices.

Explore the current information actors and look for optimizations. Depending on who is asked, there are gaps, synchronicity, or overlap between the efforts of DoD information actors. This affects the development and availability of S&T products. The structure of the “influence enterprise” must be considered as new threats and tools arise and become available. For example, the three diagrams below represent three different views of how Department of Defense information actors work together. The first image shows gaps, while the second shows seamless integration and the third shows overlap.





SUMMARY

The perturbations unleashed by the information revolution continue to be felt both across and within societies. The US government is not alone in attempting to understand, react to and develop cogent policies and strategies to deal with the changes roiling across the globe. As the new Office of the Director of National Intelligence threat assessment makes clear, unprecedented interconnectedness and access to vast amounts of information has become a defining characteristic of modern society. It has simultaneously created new threats and new opportunities for our enemies to target the infrastructure as well as the intellectual roots and popular perceptions of vulnerable populations. As US National Security Advisor James Jones said at the 45th Munich Security Conference on February 8, 2009, "The world is a smaller place. Communications is more rapid. And therefore our reactions must be swifter. And we must be able to communicate rapidly throughout the government and around the world in order to effectively respond."

That is why Strategic Communication is so important and why investing in a solid science and technology base is needed to support this important tool in our nation's kitbag of capabilities. Living in a networked world, as we do today, means power comes from connectedness. This should be a source of strength for America, since "the state with the most connections will be a central player, able to set the global agenda and unlock innovation and sustainable growth," says Princeton scholar Anne-Marie Slaughter. Robust and effective strategic communication is a vital cog in our efforts to connect with the world.



APPENDIX A

CURRENT ACTIVITIES

I	Infrastructure	<i>Enabling and facilitating access to information from news to markets to vocational</i>
S	Social Media	<i>Knowledge Management, Social Media, and Virtual Worlds</i>
D	Discourse	<i>Analysis of radical and counter-radical messages and ideas</i>
M	Modeling and Forecasting	<i>Gaming and anticipating adversarial messages and ideas activities and our counters and pre-emptives</i>
C	Collaboration	<i>Increasing collaboration and training across and beyond Government</i>
F	First Three Feet	<i>Empowering, Equipping, Educating, and Encouraging media and others to exist and freely report on events for what they really are</i>
U	Understanding	<i>Develop country, culture, and regional expertise, including polling</i>
P	Psych Defense	<i>Planning and capacity building for dealing with critical strains on society in peacetime and wartime</i>

	Project Name	Description	Execution Agent
C	Deployable Interagency Planning Augmentation Cell (DIPAC)	The short-term objective of DIPAC is to develop regional interagency strategic communication campaign plans that support Chief of Mission Priorities and more effectively coordinate DOD, COCOM and Embassy planning, programming and resourcing. The long-term objective is to lay the foundation for regional resourcing for strategic communication, based on regionalization of the Long War and coordinated through the Department of State/Counterterrorism's (S/CT) Regional Strategic Initiatives (RSI). The DIPAC will provide a common strategic communication planning construct, compare cost-benefit of diverse programs and leverage USG resources more effectively to gain unity of effort.	Department of State/Counter-Terrorism
C	VOICEBOX	Operational analysis and capability design of future state SC enterprise for US Government	SO/LIC Irregular Warfare Support (IWS) Office/Booz-Allen
C	SC Training	Providing COCOM planners and DoD representatives to U.S. country teams with appropriate training in SC, public affairs, information operations, and defense support to PD	OSD/Policy/ Office of Partnership Strategy
D	Islamic rhetoric and ideological framework to counter adversary IO capability	Develop analytical tools and models to monitor, counter, anticipate and assess the effectiveness of adversary information operations	
D	Adversarial Information Flow (Proof of Concept)	Measures how adversary information moves from one network to another	Joint Staff J-39
D	Finding Allies in the War of Words: Mapping the Diffusion and Influence of Counter-Radical Muslim Discourse	An on-going Policy effort to better coordinate DoD institutionalization of social science that aims to improve our understanding of foreign area populations.	Minerva (DDR&E/OSD/ Policy) Arizona State University

	Project Name	Description	Execution Agent
D	Emotion and Intergroup Relations	An on-going Policy effort to better coordinate DoD institutionalization of social science that aims to improve our understanding of foreign area populations.	Minerva (DDR&E/OSD/Policy) San Francisco State University
D	ECHOES: Identifying and Enabling Circulation of Constructive Media for Countering Violent Extremism	ECHOES identifies and circulates indigenous media that offer alternative ideas to extremists propaganda but is not well circulated. ECHOES builds a repository of constructive media predominantly, but not exclusively, by Muslims, providing a shared tools to counter violent extremist influence for use by USG, foreign partners, and private sector. Enabling the circulation of constructive media in key foreign audiences undermines support for, and conversion to, violent extremism, fosters positive alternatives, and builds a market for Muslim CVE media. ECHOES will be comprised of three major projects, detailed below.	OSD/Policy/ Support to Public Diplomacy (SPD)
D	Echoes Children's Arabic Media	This project focuses on understanding and finding resources for prevention of radicalization among Arab children. The researchers, specialists in children's education and Arabic, will identify the key criteria appropriate for children in prevention of radicalization, find Arabic media for children which meet these criteria, and provide copies of the media to the DoD funded counter-radicalization media repository at the University of Maryland (UMDD). The researchers will include this information in an unclassified database of the UMD repository.	OSD/Policy SPD
D	Echoes Repository at University of Maryland	This will fund library cataloging of counter-radicalization media to support growth of the counter-radicalization media repository under development by the University of Maryland (UMDD) National Consortium for the Study of Terrorism and Responses to Terrorism (START). Build a multi-language, multi-cultural, publicly accessible clearing house of counter-radicalization media.	OSD/Policy SPD
D	Echoes in DoD Educational Institutions	OSD/OUUSD(P)/Support to Public Diplomacy (SPD) will provide to DoD PME 8 books (non-fiction and fiction) and 4 films by Muslims which counter ideological support terrorism (CIST) for use in CIST education, along with Introductory Guides for the 8 books and 4 films. International Media Ventures will handle translation and development of teaching guides, and SOCOM J239 will deliver items to US military educational institutions and socialize the materials. Make insightful, informative Arabic and Urdu media by Muslims which undermine support for violent extremism available to US military in English. Improve our US military capacity for CIST and cultural understanding.	OSD/Policy SPD
D	CM Youth Technology Corps	Develop new media strategies for use against online extremist propaganda	SO/LIC IWS/Harvard Berkman Center

	Project Name	Description	Execution Agent
D	CM English Language Gaming	Develop mobile phone and downloadable games using English language to promote deradicalization	SO/LIC IWS/USC and Electronic Arts
D	RAND Alternative Strategies	To facilitate the networking of women activists in Iraq and Afghanistan – at different stages of development as key lever(s) to combat extremism and sectarian strife in these two conflict zones	RAND
D	Brand Switching for Counter-Marketing Operations	The purpose of this task is to conduct an operational analysis of the capability to rapidly and dynamically channel “message resonators” that will mitigate, eviscerate and mute the perspective of Islamist radical and insurgent thought by providing broader enveloping logic and creative interpretations that are supported by legitimate alternative intellectual resources. This analysis will result in a capability design that will build upon “brand switching” methodologies identified in the analysis and create a perpetual capability to perform counter-marketing operations across the spectrum of adversary influence. Phase 2 of the project includes a pilot program to implement the approved methodology.	SO/LIC/CTTSO/ IWS
D	RAND Provision of Social Services	Study how radical Islamic organizations use social services to develop popular support	RAND
D	Kefaya Study	Study democratic grass roots movement in MENA and document lessons learned	RAND
D	MCIA Cultural Red Cell	Develop red team of al-Anbaris to develop vignettes for USMC	UCI
D	JIEDDO S&T: Attack the network	Develop of counter-narrative information operations in Afghanistan. Identify insurgent discourse on IEDs.	JIEDDO
F	Victims of al-Qaeda Documentary	Production of film documentary of 9/11 victims' families reaching out to families of al-Qaeda victims in MENA countries	SO/LIC/CTTSO/ IWS and State Department
I	Navy Expeditionary Transmission System	IP based video and data transmission hub for Dept of Navy Office of Information. Hub or “Head-end” infrastructure will support fleet public affairs efforts to move large amounts of video data for further dissemination internally and externally. Hub will provide the capability for Navy to conduct live transmissions from around the globe 24-7, afloat and ashore.	Navy CHINFO
I	Digital Photo Lab	Electronic imaging capability aboard Navy CVNs with still and motion imagery processing and editing software coupled with ship's communication suite to transmit Public Affairs and other visual communication products from ship to shore. Current system is configure with one still imagery work station and one motion media work station, one small format color printer and one large format color printer.	Navy CHINFO
I	VOCUS	Provides detailed media review and analysis, news media contact management and video clip distribution.	Navy CHINFO

	Project Name	Description	Execution Agent
I	Navy Public Affairs Calendar	A software solution to maintain global awareness of significant events, leadership engagement, significant fleet activities, public outreach events, media engagement and other key events in order to align and maximize return on investment for the Navy's communication efforts.	Navy CHINFO
I	Media Lighthouse Digital Asset Management System	System provides a centrally managed collection of still photography, video, breaking news features, and topic specific categories to assist print, broadcast, and web based outlets requiring 24/7 access to current events throughout the U.S. Navy.	Navy CHINFO
I	TVEyes™ Broadcast Monitoring Service	On-line search, edit, and retrieval of broadcast media programming from 140 national and international media outlets.	Navy CHINFO
I	Network exploitation and analysis	Identify and exploit means to counter or intercept insurgent use of modern communications technologies	
I	Afghan Virtual Science Library	The pilot Afghanistan Virtual Science Library at Kabul University will offer scientists and engineers access to international scientific, engineering, and technical journals and professional resources. Based on this pilot, CRDF will develop a plan and proposal to extend capacity to other universities and to Afghan government ministries.	State/CRDF
M	Naval Postgraduate School Information Operations Threat	This project will support special operations units currently deployed in Afghanistan (OEF) by delivering fully developed IO plans, assisting units to implement these plans, and measuring the effectiveness of the plans and recommend appropriate adjustments	Naval Postgraduate School (NPS)
M	Interagency Gaming Exercise	In cooperation with DDRE/RRTO, JFCOM and the FBI, a series of inter-agency gaming exercises will be conducted to test the collaborative environment in using data from a variety of sources, among which are models produced from the social sciences. Part of the gaming exercises will include actual data, based on perceptions of local conditions and factors contributing to radicalism. The Gallup GLASS and POLRAD models can be used as a valuable addition to the simulations, in order to help guide decision making based on actual data. When necessary, simulated data sets will also be created to fit specific scenarios, but as much as possible, the data will be based on actual survey results from the World Poll or other sources. Gallup will also participate in development of the exercises and provide reach back support.	OSD/AT&L/ DDR&E/Rapid Reaction Technology Office (RRTO)/ Strategic Multi-layer Assessment (SMA) and Gallup

	Project Name	Description	Execution Agent
M	Cooperative Security Pilot	As Secretary Gates suggests, the best way to combat the current threat environment is through a combination of soft and hard power. CSP will provide the Operational Commander an increased capability to 1) understand the root causes of conflict through a broad-based assessment tool, 2) develop integrated, cogent, foundational plans that are based on best practices garnered through experience, and 3) measure the effect of interagency, and international, stability and reconstruction efforts in support of strategic objectives – efforts aimed at reducing the drivers of conflict and strengthening institutional performance of the target state or region. The capability, including associated methodologies, data integration and analysis, will be demonstrated in-theater (such as Afghanistan, Kosovo, Philippines (PI) and/or a venue in Southcom's AOR) with COCOM guidance and the products enable the comprehensive synchronization and monitoring of Joint, Interagency, and Multinational efforts that accommodates the needs of the Diplomacy, Defense and Development communities.	US Army Corps of Engineers (USACE)
M	Initial Steps to Operationalize Analysis of Discourse Accent and Discursive Practices for Indications & Warnings (I&W)	The objective of this effort is to identify a set of leading cues/indicators of adversary action based on analysis of discourse accent and discursive practices, develop a methodology to detect/extract/exploit these cues/indicators and identify existing or modified tools to operationalize the methodology. This effort will employ a multi-disciplinary approach (including anthropology, linguistics, computational modeling), supported by government and industry analysts and technical experts with advanced degrees in both the physical and social sciences and augmented by selective groups of academic consultants. The end customer is envisioned to be the NASIC and other members of the analyst community. The payoff is the operationalization of a (“indirect sensing”) method to detect leading indicators of an action/event, and ultimately of increasing radicalization, far in advance of methods that rely on direct sensing.	
M	Technology Initiatives for Improving Non-Kinetic Capabilities for Irregular Warfare	Emerging threats have created the need for an expanded “toolkit” of non-kinetic capabilities that will enable the warfighter to tailor an approach for any given set of conditions. This effort will identify needed non-kinetic capabilities and directions for technology initiatives that could support them. Non-kinetic capabilities evaluated include: Influencing the Population; Unity of Effort in Civil-Military Actions; Countering Corruption in Host Nation Police Forces; and Vehicle Identification and Tracking.	OSD/AT&L/ DDR&E/RRTO/ Institute for Defense Analyses (IDA)

	Project Name	Description	Execution Agent
M	Development of SENSE Capability for Inter-Agency/International Collaboration	The United States Institute of Peace (USIP) will facilitate the development of training environments for Inter-Agency/International collaboration based upon SENSE technology. The objectives of this project are: (1) to train individuals (both civilians and uniformed military/host-nation and international) in SENSE to enable them to collaborate and cooperate more successfully in conflict prevention, humanitarian assistance/disaster relief, stability, and post-conflict reconstruction operations; and (2) to expand the base of institutions which can help develop and deliver simulations. The payoff is a multiplier effect: there will be an increased number of individuals trained to more effectively operate in these operations and the simulation events will provide the opportunity to develop a new simulation based upon the SENSE architecture	OSD/AT&L/ DDR&E/RRTO/ IDA and US Institute for Peace (USIP)
P	Domestic Communications Methodologies Post-Catastrophe	Responds to a domestic catastrophic event such as a major hurricane or the detonation of a WMD	OASD (HD&ASA)
P	Low tech mass communications capability -- NORTHCOM's Civil Support Information Support Element (CAISE).	CAISE produces and disseminates critical emergency information during a humanitarian crisis	OASD (HD&ASA)
S	Support to Common Operating Picture (SCOPE)	Knowledge Management of unclassified information to counter ideological support to terrorism and violent extremism. SCOPE is a DoD-funded initiative, currently being led by NCTC/ DSOP, to identify, connect, and maintain a COP of all USG CVE programs. It is comprised of two efforts: LENS (Linking Essentials in National Security) and MAP (Mission Awareness Program).	National Counter Terrorism Center (NCTC), as well as OSD/Policy Support to Public Diplomacy, HTT, and National Media Exploitation Center (NMEC)
S	Comprehensive Voice Series	Provides a cross-GCC Data Sharing Warehouse of Human and Social Network Nodal and Audience Data for influence operations	Joint Staff J-39
S	Afghan COIN Web Portal	To expand and develop ongoing research and dissemination of socio-cultural / human terrain information on Afghanistan via an open-source web portal: www.nps.edu/programs/ccs . Provide comprehensive assessments of tribal and clan networks in coordination with ongoing COIN operations and needs. Supply deployed forces with accurate information in a timely manner via our web portal and Requests for Information (RFI).	Naval Postgraduate School (NPS)

	Project Name	Description	Execution Agent
S	Regional Engagement Plan/Counter-Motivation	CMB1 includes several unfunded requirements from State Department's Policy Planning Staff. These UFRs address core public diplomacy problems in countering ideological support to terrorism, youth engagement, and radicalization prevention. The execution of this program will deploy several independent programs into conflict regions using the latest advances in social media and networking technology. Youth Technology Core: Teams of IT-savvy Harvard students recruited to develop and promulgate code for a variety of social networking sites. Deliverables will span from simple applications for existing networks (Facebook) to all-new platforms with associated code. English Language Gaming: Tailorable and marketable games that teach the user English language, customs and culture. One game will be produced for deployment on the \$100 Laptop project and another will be produced exclusively for mobile device usage (cell phones, smart phones, etc.).	SO/LIC/CTTSO/ IWS
S	Ontology-Based Deductive Database for the Institute for the Study of Violent Groups (ISVG)	Provides a database access for warfighters to information on violent groups and criminal activity.	OSD/AT&L/DDR&E/RRTO/ OntologyWorks
S	Self-organizing Groups Study	Research and analysis of the phenomenology of self-organizing systems in virtual media	OSD/The Rendon Group
S	Reaching Foreign Audiences through Non-Traditional Media	Improving volume and penetration of DoD messages to domestic and foreign audiences through the non-traditional means such as: streaming web, podcast, blogs, cell phones, digital broadcast, emerging technologies, etc.	OSD/Policy/ Building Partnership (BP)
U	Foreign Analysis	The objective of this project is to provide strategic decision makers critical information about a foreign country and how it affects United States policy in the Middle East. The payoff will be detailed reporting on foreign and regional elites' opinions on that country's policies; additionally, the project will provide a detailed assessment of foreign elites' reactions to U.S. actions and policies within the region. Finally, the project will provide additional tools for better understanding the foreign country.	Jt. Staff
U	Foreign Audience Perceptions	COCOMs will incorporate understanding of foreign audiences and simulation of BP activities and effects into wargames and exercises	OSD/Policy/BP

	Project Name	Description	Execution Agent
D	Credible Muslim Voices	The Joint Information Operations Warfare Command (JIOWC) in coordination with Special Operations Command, CIA, National Counter Terrorism Center, Joint Staff, and the Office of the Secretary of Defense is working to identify, catalogue, characterize, and reach out to Credible Muslim Voices.	Joint Information Operations Warfare Command (JIOWC) with SOCOM, CIA, NCTC, Jt.Staff, OSD
F	Foreign Media Analysis	The JIOWC via USSTRATCOM has a foreign media analysis contract that acts as target audience analysis as well as an indicator and warning function.	JIOWC/ USSTRATCOM
M	Effectiveness of Psychological Influence Calculator (EPIC)	The Effectiveness of Psychological Influence Calculator (EPIC) provides an analytical tool for predicting the effectiveness of PSYOP strategies. EPIC is based on the initial analytical framework provided by the Psychological Operations (PSYOP) Joint Munitions Effectiveness Manual (JMEM) Functional Area Working Group of the Joint Technical Group for Munitions Effectiveness (JTCG/ME). EPIC evaluates PSYOP products with four primary factors; distribution, dissemination, reception, and accessibility. Further, EPIC provides a logic mechanism to aggregate the effects of numerous products supporting a Series, the strength of the argument or line of persuasion presented through the products, and the effectiveness of the Target Audience to accomplish a Supporting PSYOP Objective (SPO).	USSOCOM/J39 and USSTRATCOM
D	Data Mining and Semantic Analysis for on-line Media	Preliminary research and a proof of concept has been conducted by DoD's Information Operations Task Force on the use of semantic analysis programming to detect trends and the frequency of appearance of specific themes in on-line media. The capability can provide a broad representation of country and region attitudes and trends on issues of DoD and USG interest.	USD(I)
C	Joint Socio-Cultural Operational Understanding of the Terrain (J-SCOUT)	Developed a concept with JS/J-3/DDGO for a cross cutting, multidisciplinary approach to Joint and Interagency Operations in Socio-Cultural terrain. It addresses the issues and hurdles in transitioning socio-cultural capabilities to COCOMs. The technical and the enabling information infrastructure requirements are identified.	OSD/AT&L/ DDR&E/RRTO/ SMA/ Joint Staff

	Project Name	Description	Execution Agent
M	Measuring Progress in Conflict Environments (MPICE)	The MPICE system was developed to provide a basic metrics analysis capability suitable for broad interagency use applicable to any stabilization and reconstruction environment of interest. The system was developed in part through case study application in Afghanistan and Sudan, and is being employed in support of the U.S. State Department Haiti Stabilization Initiative (HSI). The system can be used both as an organizing guide for policy makers and planners, as well as a comprehensive means to analyze progress across sectors over time. The tool allows users to develop a visual story with flexibility to adapt to their particular needs.	OSD/AT&L/DDR&E/RRTO/US Army Corps of Engineers/ U.S. State Department
C	Transitional Law Enforcement (TLE)	The TLE project will advance current thinking on the nature of, and need for, law enforcement capability across DoD, the Services and the interagency to support complex warfighting, conflict resolution, stabilization and reconstruction. The project will first define deployable law enforcement capabilities in terms of the full spectrum of organizational and conceptual changes required to be relevant, practical and realistic for the US military and interagency. The project will establish the relationships, operational and organizational models and the body of knowledge about past operations/practices that will be a prerequisite to developing a functioning capability in the future. The body of knowledge will cover strategic and operational level issues as well as analysis of the use of the various technologies required to best implement this capability.	OSD/AT&L/DDR&E/RRTO/ Emerging Capabilities
C	STARTIDES	Civil and military public private partnership acting as a network organization to better respond to humanitarian assistance and disaster relief, stability operations, and finding sustainable solutions for stressed populations. Major components are social networking; capturing knowledge of cheap, sustainable emergency response gadgets; reshaping policy in stabilization and reconstruction; and coordinating, collaborating better interagency efforts in an efficient and self-organizing manner.	National Defense University, Center of Technology and National Security Policy



APPENDIX B

IDENTIFIED GAPS AND PROPOSED FUTURE
STRATEGIC COMMUNICATION S&T ACTIVITIES

Appendix B

Identified Gaps and Proposed Future Strategic Communication S&T Activities

In compiling this report, several gaps in current capabilities were identified along with specific proposals to address them. These efforts were incorporated into the previous gap analysis. Appendix II supplements the gap analysis with additional emerging requirements received from members of the interagency SC community who were interviewed and consulted during the writing of this report.

The following table describes the taxonomy applied to the requirements listed below.

Table: Taxonomy

Infrastructure	<i>Enabling and facilitating local access to information</i>
Social Media	<i>Knowledge Management, Social Media, and Virtual Worlds</i>
Discourse	<i>Analyzing and developing messages and ideas, from theirs to ours and in-between</i>
Modeling and Forecasting	<i>Gaming and anticipating adversarial messages and ideas activities and our counters and pre-emptives</i>
Collaboration	<i>Increasing collaboration and training across and beyond Government</i>
First Three Feet	<i>Empowering, Equipping, Educating, and Encouraging media and others to exist and freely report on events for what they really are</i>
Understanding	<i>Developing country, culture, and regional expertise, including polling</i>
Psych Defense	<i>Planning and capacity building for dealing with critical strains on society in peacetime and wartime</i>

Contact RRTO at 703-696-5761 or rrto@dtic.mil for additional information, including contact information, on the requirements listed below.

Data Mining and Semantic Analysis for Online Media

Category: Infrastructure

Use semantic analysis programming to detect trends and the frequency of appearance of specific themes in online media to provide a broad representation of country and region attitudes and trends on issues of DoD and USG interest.

Initial investigation of this capability within a pilot project of DoD's Information Operations Task Force demonstrated a proof of concept. Further development of this capability and its ability to be replicated at joint headquarters is required. This capability was noted in the January 2008 DSB Summer Study on Strategic Communication and would support current operations in all COCOMs relieving pressure on limited linguists needed to do time-intensive media analysis. This capability would allow DoD to counter rapid dissemination of extremist influence, reduce

support for extremist ideology, methodology, and leadership.

Suggested specific capabilities:

- Enable 24/7 data mining of blogs, web sites, YouTube, Twitter, and other online content for extremist ideological themes, messages and pre-selected USERIDs, linking this content to embedded tags within the proposed platform.
- Log USERIDs attached to extremist related content
- When a link is discovered between embedded tags and extremist themes, match counter messaging to extremist content as related content
- Mark new content as 'response' messages.

Space-Based Broadcasting

Category: Infrastructure

Develop or purchase space-based radio transmitter capable of broadcasting FM and AM radio signals from a geostationary satellite positioned over a hostile country to ordinary radio receivers.

We must be able to uplink a Voice of America or Radio Free Europe/Radio Liberty program to the transmitter; then the transmitter sends it back down to earth with sufficient signal strength that any commercially available radio receiver can receive it clearly. The technology should permit USG to broadcast into denied areas where we are unable to reach audiences with our current broadcast technology and overflight legal limitations.

Social Media for Cell/GSM

Category: Social Media

Create integrated, open source Web 2.0 multimedia platform and accompanying social networking site add-on for less developed regions currently using Cell/GSM technology to handheld devices.

Capabilities to increase the volume and penetration of DoD messages reaching foreign audiences through traditional and non-traditional media are needed to support ongoing operations in CENTCOM, EUCOM, and AFRICOM. Specifically, the development of digital media dissemination means. While robust means exist within western society to disseminate digital products via well-established infrastructure; less developed nations are developing digital dissemination means using Cell/GSM technology to handheld devices. DoD needs the ability to link all these dissemination means together allowing rapid dissemination across societies without regard to infrastructure.

The creation of a true 'integrated,' open source Web 2.0 multimedia platform and accompanying social networking site add-on, consisting of expandable files (audio/video/text/twitter (SMS)) tracked by embedded tags (username, time/date,

location, IP address). Additional requirements:

1. The platform will feature near-infinite (up to a pre-determined file size) user-generated, expandable files.
2. The platform will enable conversion across existing formats via open source multimedia filters.
3. The platforms will contain universal character formats/special characters, capable of viewing/playback on mobile devices (albeit in limited graphical format)
4. The platform will possess built-in virus scanning with each content addition
5. The platform will assign each user a personalized, secure Web site
6. Consumer Generated Content Monitors to track online social networks

Social Network Analysis

Category: Social Media

Develop a social network analysis paradigm that could be applied to the leadership of a country to examine the personal influence networks for certain key leaders of key sectors of a country.

By examining public documents and records, identify the nodes that link these people. Did they attend the same high school? Did they have the same college professor? Do their children go to the same schools today? Were they all involved in a sports club? The idea is to give the US government, specifically embassy officers a predictive model for figuring out who is in the “inner circle” and who might be there in the future. What are the connections that indicate access to power and decision makers? Example: identify the four or five most important political, economic, social and intellectual leaders of Spain for example.

Cultural Understanding: Narratives Project

Category: Understanding

Create a new paradigm for U.S. public diplomacy and strategic communication utilizing narratives to create a cognitive-anthropological knowledge base of Muslim belief, create a Dynamic Model of Human Belief Systems.

A major gap that exists in U.S. strategic communication efforts is a cognitive map of the various narratives, myths, and symbolic associations that move audiences worldwide and which determine, to a large degree, how they perceive events, including actions by the United States.

Cognitive anthropologist Dr. Robert Deutsch, founder and principal of the communications consulting firm Brain Sells, which does consulting work for major U.S. and international corporations, has proposed a way to begin filling this gap, using Dr. Deutsch’s analytical technique *PRIMALysis*. The *PRIMALysis* analytic approach could be used to analyze the narratives, myths, symbolic associations, and metaphors that are at the core of the belief systems of various Muslim audiences.

The initiative would create a new paradigm for U.S. public diplomacy and strategic communication. Utilizing narratives to create a cognitive-anthropological knowledge base of Muslim belief create a Dynamic Model of Human Belief Systems. The model would use referents, symbols, metaphors and the emotionally-based logic of core narratives to help improve communication campaigns to enhance the American image in the minds of different Muslim populations.

Refine Machine Translation, Storage, and Retrieval Capabilities

Category: Discourse

Retrieve video and audio from desktop platforms in a networked environment using English-language keyword or phrase queries against machine language translations of source language.

This is a continuing requirement. On-going efforts within the Department to refine machine translation continue, however the ability to catalogue and retrieve at an analyst's desktop roughly translated documents remains outstanding. Both planners and analysts require the ability to retrieve video and audio using English-language queries based upon machine language translation from the target language. Retrieval should be accomplished via key word or phrase and be available to desktop platforms in a networked environment. Additional efforts should be focused on refining the real-time translation capability, and in reducing size and weight of the necessary equipment.

This would have immediate impact on all operations as the decline of print media continues and the expansion of satellite television video and digital dissemination of audio and video continue to expand.

Foreign News Analysis and Ranking

Category: Discourse

Real-time context analysis and ranking for foreign media news stories.

Software would, for example, examine the content of the number one daily newspaper in each European country on a daily basis. The software, using rankings of adjectives, will grade the stories containing the words "U.S." and "policy" according to their negative or positive tone. The software then provides a daily barometer of how we fared in the news media the day before?

Center for US Government Polling

Category: Collaboration

Establish central, consolidated location (and strategy) for USG polling efforts.

The operational community needs a one stop shop for all of the USG polling efforts. There are many activities going on at the Department of Defense and the Department of State. A consolidated location (and strategy) for USG polling needs to exist. The sub PCC on metrics and polling is working this issue but, the effort needs to be ramped up. Estimated cost: \$1.5 million

Center for Foreign Media Analysis

Establish central, consolidated location (and strategy) for all USG foreign media analysis.

Category: Collaboration

The operational community needs a one stop shop for all foreign media analysis. There are many activities by both the Department of Defense and Department of State but, there is no strategy or one location where all foreign media analysis documents can be found. This issue should be taken on by a sub PCC. Estimated cost: \$2 million

Strategic Planning and Management System

Strategic planning and management system that identifies the wide array of influence activities underway, as well as progress being made in achieving these activities' goals.

Category: Collaboration

System includes coordination, management and situational awareness/understanding sub-systems. The program will improve SC responsiveness and assessment of success. Estimated cost: \$9 million

Alternatively Powered Printing Solutions

Create printing solutions power by solar power or other alternative source.

Category: First Three Feet

Find a technological way to enable local distribution of resources made available online, (which use two sides of a A4 sized paper, not one). Making resources available (e.g. children's coloring books with key themes, story books, non-fiction works, etc.) online in PDF is relatively easy. The hard part is getting them into hard-copy in desired locations. Once something gets onto paper, in hard-copy, it can get passed to many people and is no longer dependent on access to technology and/or technology functioning.

Message Localization

Development of tools and a database that allows rapid adaptation of U.S.-originated messaging would have immediate impact on short-notice operations such as Humanitarian Assistance/Disaster Relief and other contingencies.

Category: Understanding

Research into cultural differences in decision-making and target audience cognition has demonstrated that message development can be attuned for a specific population based upon a dataset of unique cultural and social characteristics.

Operations conducted in short-notice in countries and regions in which little deliberate planning has been conducted (e.g. Humanitarian Assistance operations) result in the application of 'generic' tools and messaging that may fail to achieve a timely desired result. The use of cultural experts and anthropologists can be effective; however compilation of the necessary data takes time and resources not available to a joint commander.

Other Requirements

Other S&T thrust areas that would advance efforts in strategic communication and cultural understanding, with recommendations for short-term, mid-term, and long-term activities.

<i>S&T Thrust</i>	<i>Term</i>	<i>Comments</i>
Development of a prototype, common, socio-cultural taxonomy	Short	Several RRTO programs have produced a good start, but coordination is required among the several groups bent on independent development efforts.
Better language translation capability	Short	Much work has already been done, but more key languages must be addressed.
Exploitation of statistical linguistic analysis	Short	This field is ripe for maturation and we need to understand how far and fast it can be pushed.
Development of data coding expertise	Short	While the need for new coding expertise will grow as our appetite for new data increases, training in data coding can begin now starting on the work done for terrorism.
Collaborative relations with a major polling company	Short	Establishing a research "seat" with a polling company could open this type of information to the research community whose results can inform operational use.
Improved methods for eliciting expert knowledge	Short	Compilation of best practices from the research community in combination with techniques used by the military and intelligence communities could be started.
Operational use of high quality statistical models	Short	Incorporation of some of these models into a toolkit with instructions for use and built-in evaluation tools can be started now.
Immersive, interactive training capabilities	Short	Much of the technology already exists, but its employment requires careful definition of what needs to be absorbed by the student and how that will be tested.
Prototype Federation with automated rules for secure information interchange	Mid	The technology is ready, but the formation of the Federation requires some socialization and development of acceptable security exchange agreements.
Development of a comprehensive, mature socio-cultural ontology	Mid	The initial prototype will expose undefined concepts and relationships and push the operational community to determine what data is required at different echelons and for difference missions .
Collecting Structured Data: Specify key structured data sets and develop filters	Mid	Many of the data sets are known. Filters require a defined taxonomy and data format for the destination data before they can be written.

<i>S&T Thrust</i>	<i>Term</i>	<i>Comments</i>
Game theoretic analyses	Mid	New models capable of multi-sided gaming are now being developed, but must undergo careful test before being accredited for operational use.
Operational employment of agent-based models	Mid	Most models require development of an analytic framework around them with some relatively accessible means of implementation parameterization tests.
Integration Frameworks	Mid	While these can be started today based on some initial investigations, they will become laboratories for the development and test of cross-disciplinary relationships and will be needed for a number of years.
Analysis of evidence	Mid	This effort could be started now base on several existing approaches but would require several years to mature to the point where good tools could be developed and made operational.
Data model for structured, socio-cultural data	Long	Developing a data model without a good taxonomy and experience with filters and data sets would result in expensive rework.
Robust search engine to feed multiple post-processors	Long	Additional experience with the single-purpose search-and-process engines is needed to determine what can be mined, stored and shared and in what format.
Multi-disciplinary model development	Long	Research is required to understand the relationships among the different disciplines before multi-disciplinary models can be used operationally.
Comprehensive computational socio-cultural models	Long	A focused research agenda is needed to spur the development of these capabilities

APPENDIX C

PROPOSED JOINT STRATEGIC COMMUNICATION
ASSESSMENT AND QUANTITATIVE MEASURES
JOINT TEST AND EVALUATION

Appendix C

Proposed Joint Strategic Communication Assessment and Quantitative Measures (JSCA-QM) Joint Test and Evaluation (JT&E)

There are no policies, doctrine, or joint tactics, techniques and procedures (JTTP) available to inform joint force commanders on how to measure the impact of strategic communication (SC) actions on the operational environment and advancement of joint campaign lines of operation (LOO).

Without established processes and standards, joint force commanders (JFC) and their staffs have developed capabilities out of necessity rather than design, resulting in inconsistency across the joint force on what is being measured, the tools and processes being employed, and how assessments are conducted. Additionally, joint staffs lack the training and experience necessary to conduct effective assessment. Solutions to these issues along with the development of quantitative measures will greatly improve the ability of the joint force to evaluate the effectiveness of communication actions by all military participants, and improve the quality of subsequent planning and operational decisions.

The area within SC most in need of development is communication assessment. The lack of adequate and timely assessment reduces the overall effectiveness of communication actions in support of LOOs. Assessments, if performed with adequate and timely data, allow not only past actions to be evaluated, but also help guide future efforts, and operational decisions. It may also illustrate the need to modify campaign plan LOOs or the methods used to accomplish them.

The 2007 Initial Capabilities Document (ICD) for Joint Public Affairs (JPA)¹⁶ identified five gaps associated with analysis and assessment captured in the Table.

Table: JPA Gaps

ANALYSIS AND ASSESSMENT GAPS FROM THE JPA ICD
Unable to effectively capture and monitor open source information.
Unable to effectively analyze/assess effectiveness of public communication activities.
Lack of centralized database of media content that can be tailored to deliver pertinent media analysis products to the deployed joint forces.
Unable to incorporate media analysis and assessment into staff planning.
Lack of media analysis and assessment tools.

¹⁶ The Initial Capabilities Document (ICD) for Joint Public Affairs (JPA), 23 July 2007, was endorsed by the Force Management Functional Capabilities Board (FM FCB) in the fall of 2007 and approved by the Joint Requirements Oversight Council (JROC) in December 2007 via JROCM298-07.

A Joint Test and Evaluation would determine and evaluate methodologies, procedures, and tools used for SC assessment across DOD as well as resulting products to identify best practices, determine gaps and recommend non-materiel solutions. Additionally, it will determine the quantitative data required to support SC assessment and identify potential sources for that data. It will also result in improved operational decision making since the result of these assessment actions will provide feedback on all JFC actions that become part of the public communication domain. Finally, it will define the manning and training required for effective SC assessment.

The ability to conduct timely quantitative assessment of SC activities will:

- Enhance operational and SC planning
- Validate SC activities including message resonance and delivery effectiveness
- Improve the ability to identify and counter adversarial propaganda and misinformation
- Identify the prevalence of misinformation and disinformation
- Enhance the ability to target misleading reporting for counter actions
- Assess penetration and alignment of key messages